BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Conjugation energies of some boron-containing systems. Izv. AN SSSR Otd.khim.nauk no.12:2252-2253 D '61. (MIRA 14:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Heterocyclic compounds) (Boron compounds)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Symmetry of solutions in an eigenvalue problem. Usp.mat.nauk 16 no.3:155-158 My-Je '61. (MIRA 14:8)
(Eigenvalues) (Symmetric functions)

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Energy levels of really alternant systems. Zhur.fiz.khim. 35 no.6:1337-1342 Je '61. (MIRA 14:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Hydrocarbons) (Molecules)

BOCHVAR, D. A.; STANKEVICH, I. V.; CHISTYAKOV, A. L.

Some integral characteristics of distributions applied to quantum-mechanical systems. Entropy of localization, extension, and degree of filling in a quantum-mechanical system. Zhur. fiz. khim. ~~36~~ no.12:2674-2679 D '62. (MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(Quantum theory)

STANKEVICH, I.V.

Theory of the perturbation of a continuous spectrum. Dokl.AN SSSR 144 no.2:279-282 My '62. (MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom I.G.Petrovskim.
(Hilbert space) (Operators (Mathematics))

BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Entropy terms as an expression of the uncertainty principle.
Dokl.AN SSSR 149 no.1:68-71 Mr '63. (MIRA 16:2)

1. Institut elementroorganicheskikh soyedineniy AN SSSR.
Predstavleno akademikom I.V.Obreimovym.
(Entropy) (Functional analysis)

BOCHVAR, D.A.; STANKEVICH, I.V.

Some consequences of symmetry for the eigenfunction sequence in the one electron problem in a potential field. Zhur. fiz. khim. 38 no.5:1324-1326 My '64. (MIRA 18:12)

1. Institut elementoorganicheskikh soyedineniy. Submitted June 27, 1963.

GEKHTMAN, M.M.; STANKEVICH, I.V.

Spectrum of non-self-adjoint differential operators. Dokl. AN SSSR 158 no.1:29-32 S-O '64 (MIRA 17:8)

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BOCHVAR, D.A.; STANKEVICH, I.V.

Molecular diagrams of really alternant systems. Zhur. fiz. khim. 39 no.8:2028-2030 Ag '65. (MIRA 18:9)

L 33992-65 EWT(d)/T IJP(c) S/0020/65/160/006/1271/1274

ACCESSION NR: AP5007652

18
B

AUTHOR: Stankevich, I. V.

TITLE: Asymptotic behavior as t goes to infinity of the solution of the nonstationary Schrodinger equation with non-self-adjoint Hamiltonian

16

SOURCE: AN SSSR. Doklady, v. 160, no. 6, 1965, 1271-1274

TOPIC TAGS: asymptotic property, Schrodinger equation

ABSTRACT: For physical applications we are interested in studying the behavior, for large values of the parameter t, of the solution, in Hilbert space $\mathcal{H}$ of the nonstationary Schrodinger equation

$$i\frac{\partial\psi(t)}{\partial t} = H\psi(t) \quad (-\infty < t < \infty) \qquad (1)$$

with initial condition $\psi(0) = f$, (2)

where f is from the domain of definition D(H) of the closed operator H. If the operator H is self-adjoint and can be considered as the result of perturbation of the self-adjoint operator H_0, $H = H_0 + V$, and if the initial condition belongs to

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an absolutely continuous subspace with respect to the operator H, then for a wide class of operators the author shows that for large values of t ($t \to +\infty$) the solution of the Schrodinger equation with Hamiltonian H behaves (in the sense of the metric of the space $\mathcal{H}$) like the solution of the Schrodinger equation with unperturbed Hamiltonian H_0 with initial condition g obtained from f with the help of the linear operator U_+, $g = U_+f$. With the help of the latter (called wave operators), the author constructs the scattering operator S, $S = U_+U_-$, which plays an important role in physics, and shows that for all f from D(H), $UHf = H_0Uf$. "In conclusion the author expresses his unbounded gratitude to F. A. Berezin for the formulation of the problem and constant attention to the work, and also to M. A. Naymark and A. G. Kostyuchenko for discussions of the results obtained." Orig. art. has: 7 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute for Elementoorganic Compounds, Academy of Sciences SSSR)

SUBMITTED: 16Sep64 ENCL: 00 SUB CODE: MA

NO REF SOV: 002 OTHER: 006

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BOCHVAR, D.A.; STANKEVICH, I.V.; CHISTYAKOV, A.L.

Level diagrams of aza-boron alternant systems. Zhur. fiz. khim. 39 no.6:1365-1372 Je '65. (MIRA 18:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted Jan. 4, 1964.

L 43951-66 EWT(d) IJP(c)
ACC NR: AP6017597 SOURCE CODE: UR/0039/66/069/002/0161/0207

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22
B

AUTHOR: Stankevich, I. V. (Moscow)

ORG: none

TITLE: The linear similarity between certain nonself-adjoint operators and self-adjoint operators and the asymptotic behavior for t tends to infinity of the solution of the nonstationary Schroedinger equation

SOURCE: Matematicheskiy sbornik, v. 69, no. 2, 1966, 161-207

TOPIC TAGS: linear operator, Schroedinger equation, Cauchy problem, Hilbert space

ABSTRACT: The operator H of a Hilbert space is considered linearly similar to another operator H_0 in the same space if there exists a bounded operator U transforming the region of definition $\mathfrak{D}(H_0)$ of the operator H_0 into the region of definition $\mathfrak{D}(H)$ of H and satisfying the condition

$$HUf = UH_0 f \quad (f \in \mathfrak{D}(H_0)).$$

The author investigates the case when one of the operators discussed is not self-adjoint. Conditions are established under which H is linearly similar to H_0 and the Cauchy problem is

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discussed for the nonstationary Schroedinger equation with a Hamiltonian H linearly similar to the self-adjoining operator H_0. The asymptotic behavior of the $\Psi(t)$ solution for $t \to \infty$ is also given. Results are applied to the Schroedinger operator in the $L_2(E_k)$ space and to the Sturm-Liouville operator along the semiaxis. A brief account of all these results was published earlier (DAN SSSR, 160, No 6, 1965, 1271-1274). The author thanks F. A. Berezin for the formulation of the problem and constant interest in the work and M. A. Naymark and A. G. Kostyuchenko for discussing the results. Orig. art. has: 271 formulas.

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STANKEVICH, K.I.

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